

ABSTRACT OF THE DISCLOSURE

A method for fabricating a nitride read-only memory. The memory region is integrated with a peripheral circuit region, with a polysilicon layer acting as word line in the memory region to serve as an insulator polishing stop layer with the insulator formed in the first shallow trenches in the peripheral region by disposing an oxide layer, wherein the insulator is simultaneously formed between polysilicon structures in the memory array region to prevent semiconductor substrate reaction with metal such as cobalt during salicidation of the polysilicon, and the ONO layer formed on the sidewalls of the shallow trenches avoids STI corner recess and profile deformation during thermal process.

15